Heimdal, Monica

From: John Brunini [jbrunini@brunini.com]
Sent: Tuesday, September 10, 2013 12:59 PM
To: Kato, Linda
Cc: Heimdal, Monica
Subject: BIP 40 - Restoration Plan for Impacts to Wetlands Associated with Williston Village RV Park
Attachments: Williston Village RV Resort Wetland Restoration Plan.pdf

Ms. Kato and Ms. Heimdal,

Attached to this email, please find a proposed wetland restoration plan for your review and consideration in the referenced matter. We requested that Carlson McCain prepare this plan as quickly as they could, while maintaining high standards for quality and consideration of all relevant restoration-related issues. As you know, BIP 40 is eager to begin the restoration process at the soonest possible time in order (hopefully) to complete the process before winter weather stops work. We ask that you review the attached at your earliest convenience and provide your comments and any proposed revisions. BIP 40 has a contractor engaged and ready to begin restoration activities as soon as EPA approves the restoration plan and provides notice to proceed.

Thanks,
JB

From: Kato, Linda [mailto:Kato.Linda@epa.gov]
Sent: Thursday, August 29, 2013 5:48 PM
To: John Brunini
Cc: Heimdal, Monica
Subject: RE: BIP 40

Mr. Brunini – we have no objections to this consultant. Feel free to engage their services.

Thank you for your prompt response.

Linda S. Kato
Enforcement Counsel
U.S. EPA Region 8
Mail Code ENF-L
1595 Wynkoop
Denver, CO 80202
(303) 312-6852
kato.linda@epa.gov

From: John Brunini [mailto:jbrunini@brunini.com]
Sent: Thursday, August 29, 2013 3:03 PM
To: Kato, Linda
Cc: Heimdal, Monica
Subject: RE: BIP 40

Ms. Kato and Ms. Heimdal,

Attached to this email, please find a statement of qualifications for Carlson McCain, Inc. BIP 40 is proposing to engage Carlson McCain to prepare the restoration plan which will be required in this matter.

Please contact me if you have any questions about the attached. If BIP 40's proposed engagement of Carlson McCain, Inc. to prepare this plan meets with your approval, please notify me so that we may formalize the engagement and Carlson McCain may begin drafting the plan as soon as possible.

Thanks,
JB

John A. Brunini
E: jbrunini@brunini.com
P: 601-973-8712 F: 601-960-6902

The Pinnacle Building
190 East Capitol St, Suite 100, Jackson, MS 39201
Post Office Drawer 119, Jackson, MS 39205

www.brunini.com
Bio / V-Card

From: Kato, Linda [mailto:Kato.Linda@epa.gov]
Sent: Thursday, August 22, 2013 5:40 PM
To: John Brunini
Cc: Heimdal, Monica
Subject: BIP 40

Mr. Brunini –

As I mentioned in my voice message, I am the attorney who has been assigned to handle the BIP 40 matter. I'm sorry we weren't able to connect via telephone, but I wanted to convey some information to you without further delay. I have been given a copy of your August 21 letter, addressed to Ms. Heimdal. Please note that we appreciate your client's desire to expeditiously commence restoration of the site. In order to make sure that it is completed without complication, a restoration plan should be drafted by your environmental consultant and submitted to Ms. Heimdal for review and approval. Once everyone is in agreement as to how the restoration should be conducted, the project may commence. Please advise your client that the work should not start until the plan is approved, and that we will work with your client to expedite this matter.

As a first step, please have your client submit the name and qualifications of the environmental consultant to Ms. Heimdal, who will notify your client if there are any objections to the consultant. The consultant should then prepare the restoration plan according to EPA guidelines, which I have attached here. If the consultant or your client has questions about the development of the plan, please refer them to Ms. Heimdal.

In the meantime, we will be preparing a draft Administrative Order on Consent for your review. This document will formalize our agreement regarding restoration of the site. If you have any questions regarding our agreement or agency procedures, please feel free to call me. Any questions from your client of a technical nature should be directed to Ms. Heimdal.

Thank you for your cooperation. I look forward to meeting you.

Linda S. Kato
Enforcement Counsel
U.S. EPA Region 8
Mail Code ENF-L
1595 Wynkoop
Denver, CO 80202
(303) 312-6852
kato.linda@epa.gov

Carlson McCain

ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

September 9, 2013

Mr. John Brunini
Brunini Firm
The Pinnacle Building
190 East Capitol Street, Suite 100
Jackson, MS 39201

Dear Mr. Brunini,

Carlson McCain, Inc. is pleased to submit the Wetland Restoration Plan for your review.

Please call me at 701-595-7004 if you have any questions or need additional information.

Sincerely,

Greg Meyer, MS
Ecologist

600 South 2nd Street, Suite 105 • Bismarck, ND 58504 • Tel 701-255-1475 • Fax 701-255-1477 • www.carlsonmccain.com

WETLAND RESTORATION PLAN

Williston Village RV Resort
Section 24, T155N, R101W
Williams County, North Dakota
Project #4554

Prepared for:

Mr. John Brunini
Brunini Firm
The Pinnacle Building
190 East Capitol Street, Suite 100
Jackson, MS 39201

September 9, 2013

Carlson McCain

600 S. 2nd Street, Suite 105
Bismarck, ND 58504
Tel 701-255-1475
Fax 701-255-1477
www.carlsonmccain.com

ENVIRONMENTAL • ENGINEERING • LAND SURVEYING

EXECUTIVE SUMMARY

Construction of the Williston Village RV Resort (RV Resort) has impacted a wetland that appears to be connected to Camp Creek. A wetland delineation conducted by Carlson McCain, Inc. determined that 4.5 wetland acres were impacted by construction activities (Carlson McCain, 2013). Removal of the fill materials will restore the wetland to pre-impact conditions.

The RV Resort will remove fill materials to the original surface elevation of the impacted wetland area and restore it to pre-impact conditions which will restore its hydrologic regime. Conventional excavation equipment (dozers, scrapers, and backhoes) will be used to remove the fill materials. Precise construction staking, implementing Storm Water Pollution Prevention Plan (SWPPP) measures, and consistent surveys will ensure the fill materials will be removed to the original wetland surface and limit impacts to the wetland area. Hydrophytic vegetation will be seeded in and wetland hay from adjacent wetlands will be spread on the original wetland surface to aid in the establishment of hydrophytic vegetation.

The impacted wetland is located in the NE¼ of Section 24, T155N, R101W. The amount of wetland impacts and restoration details are summarized in Table 1.

Table 1. Summary of Wetland Impact and Restoration Site

Impacted Wetland Location	**Williams County**	**Section 24, T155N, R101W**
Project Wetlands	PEMA/PEMC (Cowardin 1979)	
Wetland Impact	4.5 Acres	
Restoration Site	**Williams County**	**Section 24, T155N, R101W**
Type of Restoration	Remove fill materials from impacted wetland area to original surface elevations	
Fill Types (Amount)	Topsoil (30,000 cubic yards) and clean fill (118,000 cubic yards)	
Restoration Wetland	4.5 acres with seasonal hydrologic regime	
Years of Monitoring	~~3~~ 5 years	

The restored wetland will be monitored for up to ~~3~~ 5 years due to the simplistic nature of the restoration and high probability of success following the removal of fill materials. A monitoring plan is also included in this Restoration Plan.

Williston Village RV Resort Wetland Restoration Plan
Section 24, T155N, R101W
Williams County, North Dakota

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

Construction of the Williston Village RV Resort (RV Resort) impacted 4.5 wetland acres by filling a former oxbow/meander channel of Camp Creek (Appendix A). Camp Creek flows east through the northern portion of the RV Resort property toward the Little Muddy River. Fill was placed into the former oxbow/meander channel during construction activities. A wetland delineation that evaluated historic aerial photos and current field conditions determined the area of impact. This restoration plan identifies the project impacts to the wetland and describes the removal of those impacts.

The wetland is located on the north edge of the RV Resort property near Williston, North Dakota, in the NE¼ of Section 24, T155N, R101W (Appendix A).

Table 2. Impacted Wetland Area

Wetland	NWI	Acres*	Wetland Impact Acres
Wetland 1	PEMA/PEMC	4.5	4.5
		Total	**4.5**

*Acreage estimated from wetland delineation contained in Wetland Delineation Report (Carlson McCain, 2013).

The RV Resort will conduct and oversee the restoration of the impacted wetland.

2.0 EXISTING SITE CONDITIONS

The impacted wetland is located on the RV Resort property and is classified as Palustrine Emergent Temporarily Flooded (PEMA) and Palustrine Emergent Seasonally Flooded (PEMC). The wetland area was a former oxbow/meander channel of Camp Creek and is located in the Little Muddy River watershed. The impacted wetland area has been determined at 4.5 acres.

2.1 Impacted Wetland Physical Conditions

The impacted wetland had a seasonal hydrologic regime. Its hydrology was influenced by surface water flow and by groundwater (approximate 9 inches in depth as varies seasonally from 0-18 inches in depth) flow through the site. The impacted wetland contains Harriet soils and was vegetated with saline tolerant species. Alkali grass (*Puccinellia nuttaliana*), saltgrass (*Distichlis spicata*), and foxtail barley (*Hordeum jubatum*) are prevalent along the edge of the impacted wetland area. The uplands surrounding the impacted wetland area consist of Williams-Zahl loams which contain an average depth of groundwater to be greater than 80 inches. The depth of groundwater in the area has been estimated to be near an elevation of 1880 feet above sea level and this is consistent with the surface of the impacted wetland area.

Approximately 148,000 cubic yards of fill materials were inadvertently placed in the wetland area. Approximately 30,000 cubic yards of upland vegetated topsoil was placed on the original wetland surface and 118,000 cubic yards of clean fill was placed on the topsoil fill materials. The clean fill materials were identified as sandy lean clay glacial till and/or sandy coarse alluvium.

The vegetated topsoil fill materials consist of Williams-Zahl loams, (surficial clayey sand) which were placed on the original wetland surface. Clean fill materials were placed on top of the vegetated topsoil fill material.

Photograph 1. View of the fill materials located within the downstream portion of the impacted wetland area.

Photograph 2. View of upstream edge of the impacted wetland area. Surface water accumulated in the upstream portion due to the fill materials.

3.0 PROPOSED SITE CONDITIONS

3.1 Restoration Activities

Restoration activities will include removal of fill materials to the original elevations of the impacted wetland surface. The original surface elevations range from 1882.98 (upstream edge) to 1876.95 (downstream edge). Prior to impact, water flowed east through the wetland towards Camp Creek.

Approximately 148,000 cubic yards of material will be removed to restore the impacted wetland to its original ground surface. Conventional excavation equipment (dozers, scrapers, backhoes) will be used to remove fill materials. The use of conventional excavation equipment will ensure the restoration is completed quickly which will allow the restored site to quickly resume wetland functions. The excavation equipment will access the impacted wetland area from the south across upland areas. Excavated fill materials will be placed on the surrounding upland areas to the south and east of the impacted wetland area (Appendix A).

The boundaries of the fill area will be staked by surveyors to limit impacts to adjacent wetland areas. Grade elevations of the depth of fill to be removed will be staked on a 100 foot grid across the area of fill. Surveys and staking of grade elevation of the depth of fill will be conducted routinely to insure that all fill materials are removed and over-excavation of the impacted wetland area does not occur.

Best management practices will be implemented by the contractor while removing fill materials from the impacted wetland area. Storm Water Pollution Prevention Plan (SWPP) measures will be implemented to limit impacts to adjacent wetlands (Appendix B). Additional measures will include the use of construction mats or low ground pressure equipment if the site becomes saturated or as the excavation approaches final grade to reduce compaction of the impacted wetland area. Following the removal of the fill materials, additional silt fences will be installed at the base of the graded slopes along the restored wetland boundary. OK 'Seems like silt fence should extend along north and west side of area to be excavated to prevent fill from being discharged into surrounding wetland. After excavation of fill is complete how long will silt fences remain in place? Please address
The equipment used, excavation activities and grade elevation staking will be inspected daily by Mr. Kyle Brock and/or Mr. John Reeves (onsite supervisors). If Carlson McCain not onsite, please provide qualifications of Kyle Brock and John Reeves. OK

Grading of the adjacent slopes will also be conducted during the removal of the fill materials. At least four inches of topsoil will be spread on the graded slopes to aid the growth of native vegetation species.

3.2 Restoration of Wetland Functions

Restoration of the impacted wetland's hydrologic regime will be accomplished by removing fill materials to the original surface elevations. Removal of the fill materials will allow surface run-off, high water from Camp Creek, and groundwater to inundate and saturate the wetland area.

Vegetation within the wetland area will be re-established by two methods: 1) seeding Nuttall alkaligrass and 2) spreading wetland hay across the wetland surface. Nuttall alkaligrass seeds will be broadcast

across the surface of the wetland and then covered with wetland hay. Table 1 indicates the proposed seeding mixture. The wetland hay will be collected from adjacent wetland areas along Camp Creek. Restoration of hydrology will also aid in re-establishing hydrophytic vegetation by allowing propagules to naturally flow into the wetland from high flows of Camp Creek.

Table 1. Seeding mixture for restored wetland.

Species*	Mixture (%)	Pure Live Seed (Lbs/Ac)	Acres	Total Pure Live Seed (Lbs)
Nuttall alkaligrass	100%	1.5	4.5	6.8

*Seeding scheduled for fall of 2013 following removal of fill materials.

Native vegetation species will be seeded into the graded slopes adjacent to the wetland. Straw wattles will be installed on and straw chaff will be spread upon the seeded slopes to decrease erosion and aid in the establishment of vegetation on them. The vegetation will control erosion, reduce sedimentation, and provide wildlife habitat. The table below indicates the seeding mixture to be planted upon the site. The seed used to re-establish vegetation on the restoration site will be obtained from local plant sources.

Table 2. Seeding mixture for slopes adjacent to the restored wetland.

Species**	Mixture (%)	Pure Live Seed (Lbs/Ac)	Acres	Total Pure Live Seed (Lbs)
Little Bluestem	25%	1.50	2.0	3.0
Western Wheatgrass	25%	3.00	2.0	6.0
Needle and Thread	20%	2.85	2.0	5.7
Switchgrass	15%	0.79	4.5	3.5
Dotted Gayfeather	5%	0.60	2.0	1.2
Stiff Sunflower	5%	0.19	2.0	0.4
Purple prairieclover	3%	0.17	4.5	0.8
Purple Coneflower	2%	0.27	4.5	1.2

**Seeding should be conducted between May 1 and June 15, 2014.

3.3 Noxious Weed Species Management

Chemical and/or mechanical controls will be used to manage noxious weed species if they become prevalent within the restored wetland and adjacent slopes. The restoration site will be monitored annually by the RV Resort and appropriate steps will be taken to control noxious weeds. Noxious weeds identified by the North Dakota state list will be managed. Williams County does not list any additional noxious weeds.

Plants identified as noxious weeds include:

- Absinth wormwood

- Canada thistle
- Diffuse knapweed
- Leafy spurge
- Musk thistle
- Purple loosestrife
- Russian knapweed
- Spotted knapweed
- Yellow toadflax
- Dalmation toadflax
- Salt cedar

4.0 MONITORING PLAN

The restored wetland requires subsequent monitoring of its hydrology and vegetation to ensure it is functioning correctly. The restored wetland will be evaluated with wetland criteria as identified in the *Great Plains Regional Supplement to the 1987 Manual (Version 2.0)* (USACE 2010) and *National Wetland Plant List* (Lichvar 2012).

Monitoring of the restoration site will be conducted for ~~at least three~~ five year due to the simplistic nature of the restoration and high probability of success following the removal of the fill materials.

4.1 Monitoring Methods

Monitoring of the restored wetland will consist of ~~an annual~~ field visit, a monitoring report, and follow-up to any questions or suggestions from regulatory personnel. Monitoring will be performed midway and near the end of the first and second growing seasons following removal of the fill materials. Subsequent monitoring will be conducted on an annual basis during the month of August. The restored wetland will be evaluated by the presence of indicators of wetland criteria, i.e., hydrology, and hydrophytic vegetation (hydric soils are already present) at representative observation points located along a sampling transect. The spatial location of the observation points and the photo points will be collected during the initial monitoring effort with a GPS to ensure that the same locations are evaluated during subsequent monitoring visits.

4.1.1 Photo Points

Photo points are a specified location in which field photographs will be taken. Photographs taken from a specified location and consistent direction will provide a visual account of the restoration and development of the restored wetland.

Photo points will be established in strategic locations in order to document the changes occurring within the restored wetland. The proposed locations and directions of the photo points can be seen in (Appendix A). The photo points will be marked with a metal stake and the spatial locations will be collected with a GPS. Photographs taken from these locations will have consistent camera settings and a documented viewing direction. Photo identification cards with pertinent information to the photo point will be placed in the photograph's field of view. Information documented on the photo identification card will include:

- Unique photo point identification
- Photographer's initials
- Date and time
- Magnetic declination
- Location

4.1.2 Wetland Vegetation

Wetland vegetation composition will be evaluated at each observation point following the guidelines set forth by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE 2010). Areal cover of all vegetation species and percent bare soil will be evaluated within a 1 meter squared quadrat at each observation point. An additional vegetation species list will be compiled while traversing between observation points. The adjacent seeded slopes will be evaluated for the presence of noxious weeds and overall presence/growth of the seeded species.

OR clear clarify if this is simply a list of species randomly observed or at select intervals or other means

add that entire wetland should be evaluated for weeds, as well, or

4.1.3 Wetland Hydrology

Wetland hydrology indicators will be evaluated at each observation point following the guidelines set forth by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* (USACE 2010). Hydrology indicators will also be identified while traversing between observation points.

4.2 Problem Areas

Problem areas will be identified and documented during the monitoring visits. Photographs and notes detailing each problem area will be collected during the field monitoring. Problems areas may involve erosion, areas barren of vegetation, patches of noxious weeds, etc.

4.3 Monitoring Report

Monitoring reports will be completed after each monitoring visit and submitted. Each report will describe the environmental conditions at the site and assess the relative success or failure of restoration efforts. The report will include:

- Name and contact information of permittee, point of contact, and field observer(s)
- Name of person conducting monitoring reports and dates of monitoring visits
- Directions to and map of mitigation area
- Summary paragraph describing the project's purpose, environmental conditions at the site, and restoration action
- Timeline of restoration activities and final date of completion
- Photographs and a narrative summary of the restored wetland's relative success or failure per success criteria
- Photographs and descriptions of any problem areas
- Recommendations for corrective or remedial actions (if necessary)
- Description and dates of implemented corrective actions (if applicable)

5.0 RESTORATION SUCCESS CRITERIA

Success criteria variables are essential to evaluating the restored wetland. The success of the restored wetland will be based on the re-establishment of hydrology and hydrophytic vegetation and the management of noxious weeds.

5.1 Wetland Hydrology

Wetland hydrology will be restored following the removal of the fill materials. Indications of hydrology observed during the monitoring visits will indicate success for the restored wetland. Indications of hydrology will also be compared to adjacent wetlands.

5.2 Hydrophytic Vegetation

Hydrophytic vegetation will be deemed successful when these species comprise greater than 50 percent of areal coverage and be considered dominant species within the observation points. The percent of bare soil will also decrease as vegetation is re-established. Percent bare soil should be considered successful when it comprises less than 15 percent of areal cover.

5.3 Noxious Weed Coverage

Noxious weeds in and around the restored wetland will be evaluated and overall coverage will be determined. Management of noxious weeds will be implemented by request if restoration success criteria goals are not met. Noxious weed coverage should be considered successful when it comprises less than ~~15~~ 10 percent of areal coverage by the third year after restoration.

6.0 RESTORATION CONTINGENCY MEASURES

The RV Resort anticipates that the success criteria variables will be met with the proposed restoration of the wetland. However, contingency measures may be necessary to correct unforeseen problems and provide remedial actions for the restored wetland. The RV Resort will be responsible to provide remedial actions.

Contingencies are based on the success criteria variables of the monitoring plan and provide methods to correct potential problems. Potential situations and contingencies are described below. Not all future problems can be foreseen; therefore, additional contingencies may need to be developed and implemented to remediate the situation. Prior to any contingency measure being implemented, an evaluation of the situation and consultation and coordination with the U.S. Environmental Protection Agency (EPA) will take place to determine the appropriate course of action.

6.1 Vegetation Contingency Measures

Contingency measures for wetland vegetation may involve the following actions:

- Physical control (i.e., mowing, haying, or grazing after the nesting season)
- Chemical control (spraying)
- Reseeding
- Additional seeding

Physical and/or chemical control methods will be implemented if the vegetation success criteria variables are not met during the monitoring period.

6.2 Wetland Hydrology Contingency Measure

Contingency measures for wetland hydrology may involve the following actions:

- Additional removal of fill materials
- Removal of sedimentation or erosion materials

This action will be implemented if the wetland hydrology success criteria variable is not met during the monitoring period. Hydrologic conditions will be compared with nearby wetlands of similar size and class.

7.0 INSPECTIONS

The restoration site and activities will be available for inspections by EPA personnel.

8.0 SCHEDULE

The removal of fill materials and restoration of the impacted wetland is of high priority so restoration activities will commence immediately upon acceptance of the restoration plan and receiving the notice to proceed. It will take approximately 45 days to finish the restoration activities so it is essential to start soon in order to beat the onset of winter weather. The anticipated completion of the restoration is prior to November 15, 2013. Monitoring reports are anticipated to be submitted for review within 45 days of the monitoring effort.

Anticipated schedule:

- Construction staking / Implementation of erosion control structures – September 16, 2013 or sooner if notice to proceed is received earlier
- Commence removal of fill materials - September 17, 2013 or sooner if notice to proceed is received earlier
- Completion of final grading and removal of fill materials – prior to November 15, 2013
- Seeding of restored wetland – prior to November 15, 2013
- Seeding of graded slopes adjacent to restored wetland – Spring 2014 (between May 1 and June 15)
- Biannual Monitoring – June and August 2014 and 2015 (subsequent reports submitted within 45 days of monitoring effort) – 2018, if necessary
- Annual Monitoring – August 2016, (subsequent report submitted within 45 days of monitoring effort)

RV Resort reserves the right to modify the anticipated schedule if unforeseen problems or inclement weather occurs.

9.0 REFERENCES

Carlson McCain, Inc. 2013. Wetland Delineation Report: Williston Village RV Resort. Section 24, T155N, R101W. Williams County, North Dakota. 30pp.

Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Online. http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm (Version 04DEC1998). Accessed May 2013.

Environmental Laboratory. 1987. *Corp of Engineers Wetlands Delineation Manual.* Wetlands Research Program. Technical Report Y-87-1. Department of the Army, Waterways Experiment Station, US Army *Corp of Engineers*, Vicksburg, Mississippi, USA.

Environmental Laboratory. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0).* U.S. Army Corps of Engineers, U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi, USA.

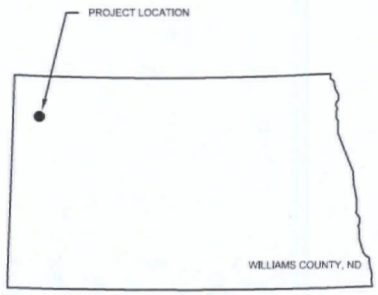
Lichvar, Robert W. 2012. *National Wetland Plant List.* ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

Appendix A

Figures

WETLAND RESTORATION
PLAN DRAWINGS
WILLISTON VILLAGE RV RESORT
BRUNINI FIRM

SECTION 24, T155N, R101W
WILLIAMS COUNTY, NORTH DAKOTA



LOCATION MAP
NO SCALE

SHEET INDEX

ESTIMATED EARTHWORK QUANTITIES

NO.	DESCRIPTION	QUANTITY	UNIT
1	UNCLASSIFIED EXCAVATION	127,140	C.Y.

Why isn't quantity 148,000 C.Y.? (see Exec. Summary and 2.1, 3.1)

Revisions:

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
KIRK L PAPE
PE-8682
LS-8682
DATE 9/10/2013
NORTH DAKOTA

Carlson McCain
ENVIRONMENTAL · ENGINEERING · SURVEYING
600 S. 2nd St., Suite 105, Bismarck, ND 58504
Phone: 701-255-1475 Fax: 701-255-1477

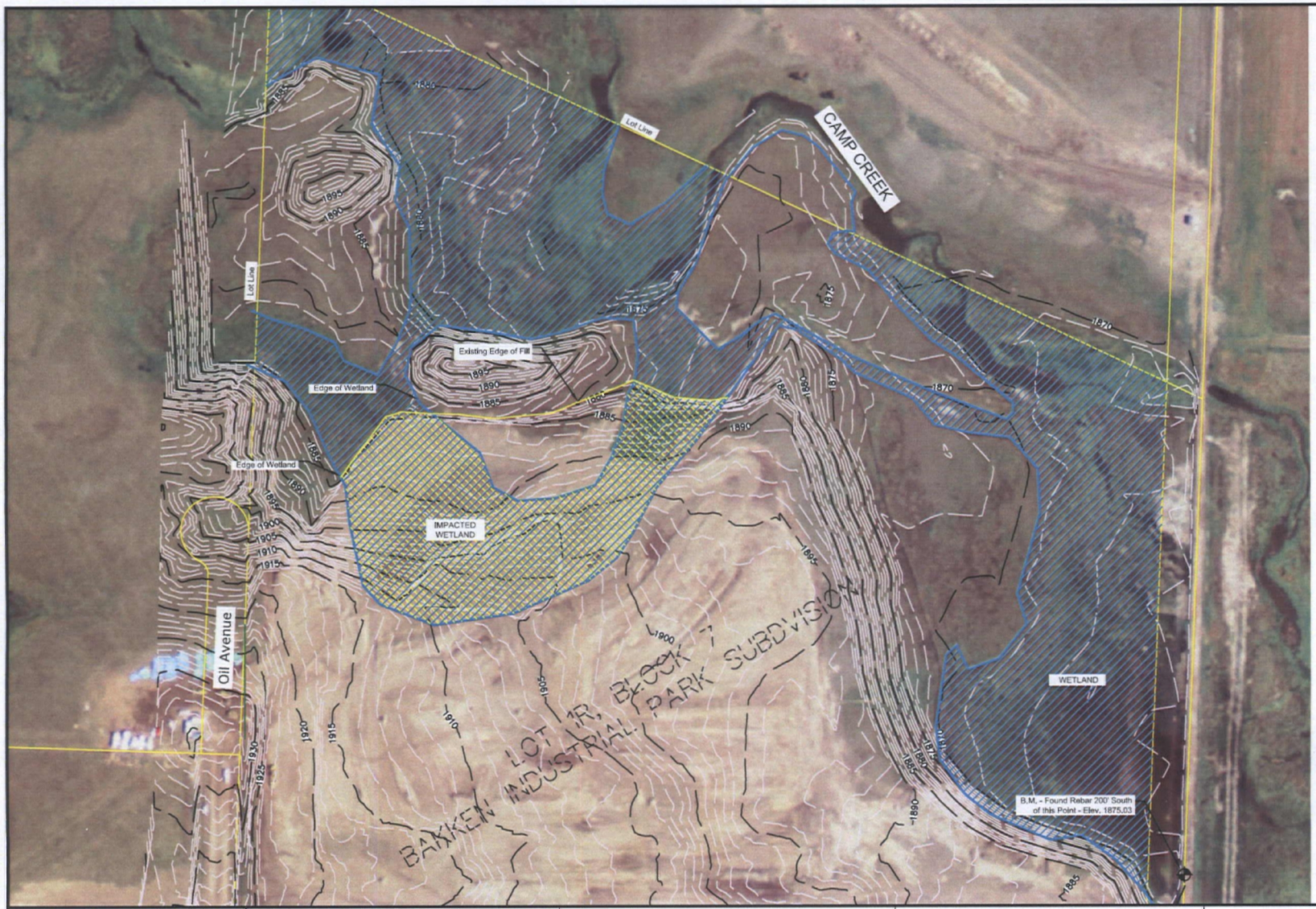
I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.
Kirk L. Pape
Date 9/10/2013 Reg. No. PE-8682

BRUNINI FIRM
190 East Capitol Street
Jackson, Mississippi, 39201

WILLISTON VILLAGE RV RESORT
Williams County, North Dakota

WETLAND RESTORATION COVER SHEET
Project No. 4789

1 of 5



LEGEND

- 1869 CONTOUR (EXISTING)
- WETLAND
- IMPACTED WETLAND

NOTES

1. CONTOURS SHOWN WERE DERIVED FROM FIELD TOPOGRAPHY SHOT 6/5/2013.
2. 2012 NAIP AERIAL PHOTOGRAPHY SOURCE DATA.

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
KIRK L. PAPE
PE-8682
LS-8682
DATE 9/10/2013
NORTH DAKOTA

Carlson McCain
ENVIRONMENTAL · ENGINEERING · SURVEYING
600 S. 2nd St., Suite 105, Bismarck, ND 58504
Phone: 701-255-1475 Fax: 701-255-1477

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.

Kirk L. Pape

Date 9/10/2013 Reg. No. PE-8682

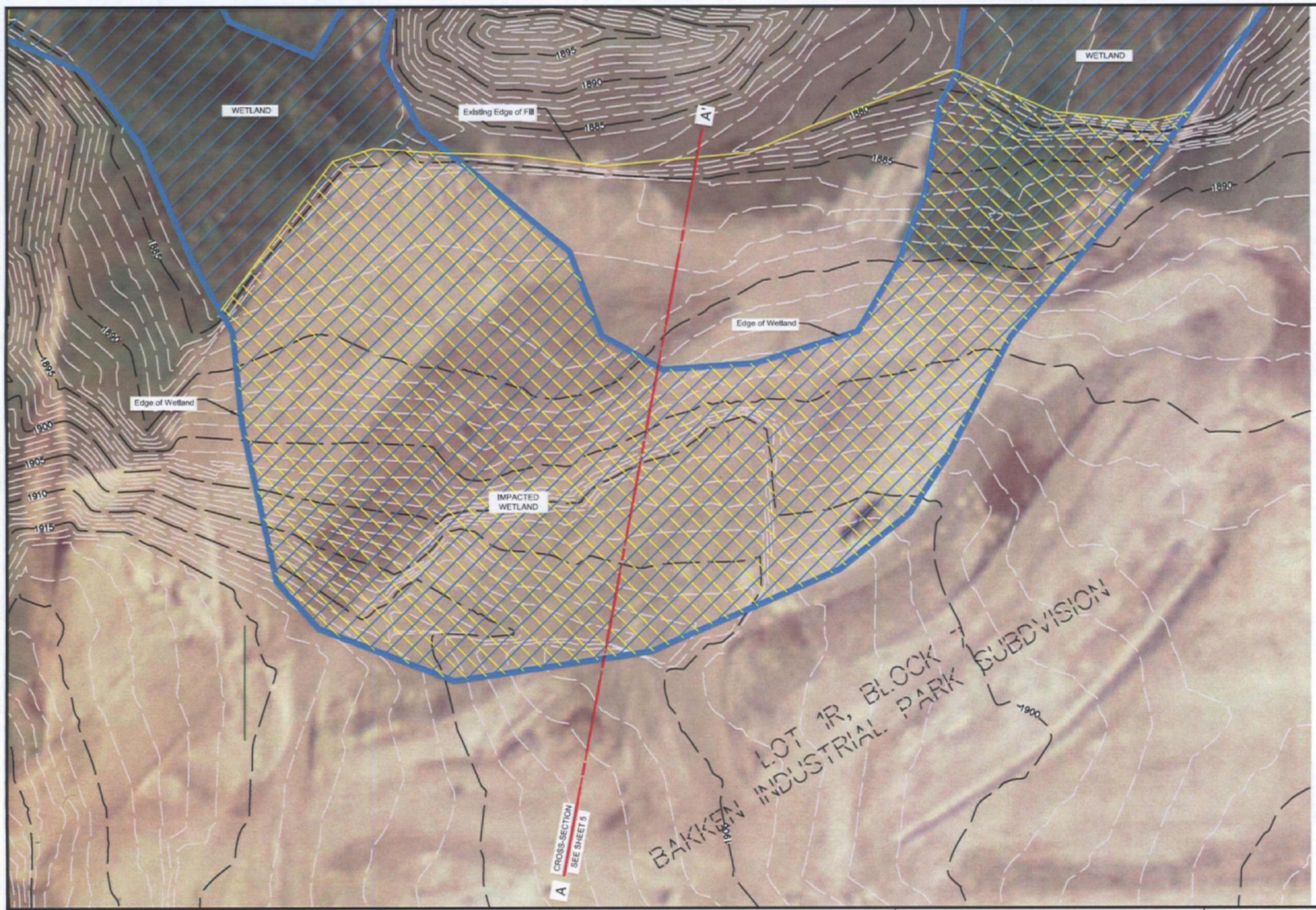
BRUNINI FIRM
190 East Capitol Street
Jackson, Mississippi, 39201

WILLISTON VILLAGE RV RESORT
Williams County, North Dakota

WETLAND RESTORATION OVERALL VIEW

Project No. 4789

2 of 5



N

0 40 80 160

Scale in Feet

LEGEND

1869 CONTOUR (EXISTING)

WETLAND

IMPACTED WETLAND

NOTES

1. CONTOURS SHOWN WERE DERIVED FROM FIELD TOPOGRAPHY SHOT 6/5/2013.
2. 2012 NAIP AERIAL PHOTOGRAPHY SOURCE DATA.

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
KIRK L PAPE
PE-8682
LS-6682
DATE 9/10/2013
NORTH DAKOTA

Carlson McCain
ENVIRONMENTAL · ENGINEERING · SURVEYING
600 S. 2nd St., Suite 105, Bismarck, ND 58504
Phone: 701-255-1475 Fax: 701-255-1477

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.

Kirk L. Pape

Date 9/10/2013 Reg. No. PE-8682

BRUNINI FIRM
190 East Capitol Street
Jackson, Mississippi, 39201

WILLISTON VILLAGE RV RESORT
Williams County, North Dakota

WETLAND RESTORATION EXISTING CONDITIONS
Project No. 4789

3 of 5

R:\projects\4440-5000\4789_Williston RV Site - Restoration Plan\Cadd\4789-GP.dwg, 9/9/2013 8:25:09 AM, Adobe PDF

Silt fence on northwest side? OK (to be removed after excavation)

N

0 40 80 160

Scale in Feet

LEGEND

1869 CONTOUR (EXISTING)

WETLAND

RESTORED WETLAND

1870 CONSTRUCTED CONTOUR

PROPOSED SILT FENCE

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL COORDINATES AND ELEVATIONS PRIOR TO STARTING CONSTRUCTION. DEVIATIONS FROM THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE GRADING.
2. 2012 NAIP AERIAL PHOTOGRAPHY SOURCE DATA.
3. SEED ALL DISTURBED AREAS.
4. CONSTRUCTED CONTOURS SHOWN WITHIN THE IMPACTED WETLAND BOUNDARY ARE BASED ON THE 2012 SBL GRADING PLAN, WHICH REPRESENT THE BEST AVAILABLE EVIDENCE OF THE ORIGINAL GROUND ELEVATION BEFORE FILL BEING PLACED ON THE WETLAND. CONTRACTOR SHALL EXCAVATE TO THE ORIGINAL GROUND ELEVATION AS DETERMINED BY ON-SITE OBSERVATION BY QUALIFIED PERSONNEL DURING EXCAVATION OPERATIONS, REGARDLESS OF THE ELEVATIONS SHOWN HEREON.

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
KIRK L. PAPE
PE-8682
LS-8682
DATE 9/10/2013
NORTH DAKOTA

Carlson McCain
ENVIRONMENTAL · ENGINEERING · SURVEYING
600 S. 2nd St., Suite 105, Bismarck, ND 58504
Phone: 701-255-1475 Fax: 701-255-1477

I hereby certify that this plan was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of North Dakota.

Kirk L. Pape

Date 9/10/2013 Reg. No. PE-8682

BRUNINI FIRM
190 East Capitol Street
Jackson, Mississippi, 39201

WILLISTON VILLAGE RV RESORT
Williams County, North Dakota

WETLAND RESTORATION GRADING PLAN
Project No. 4789

4 of 5

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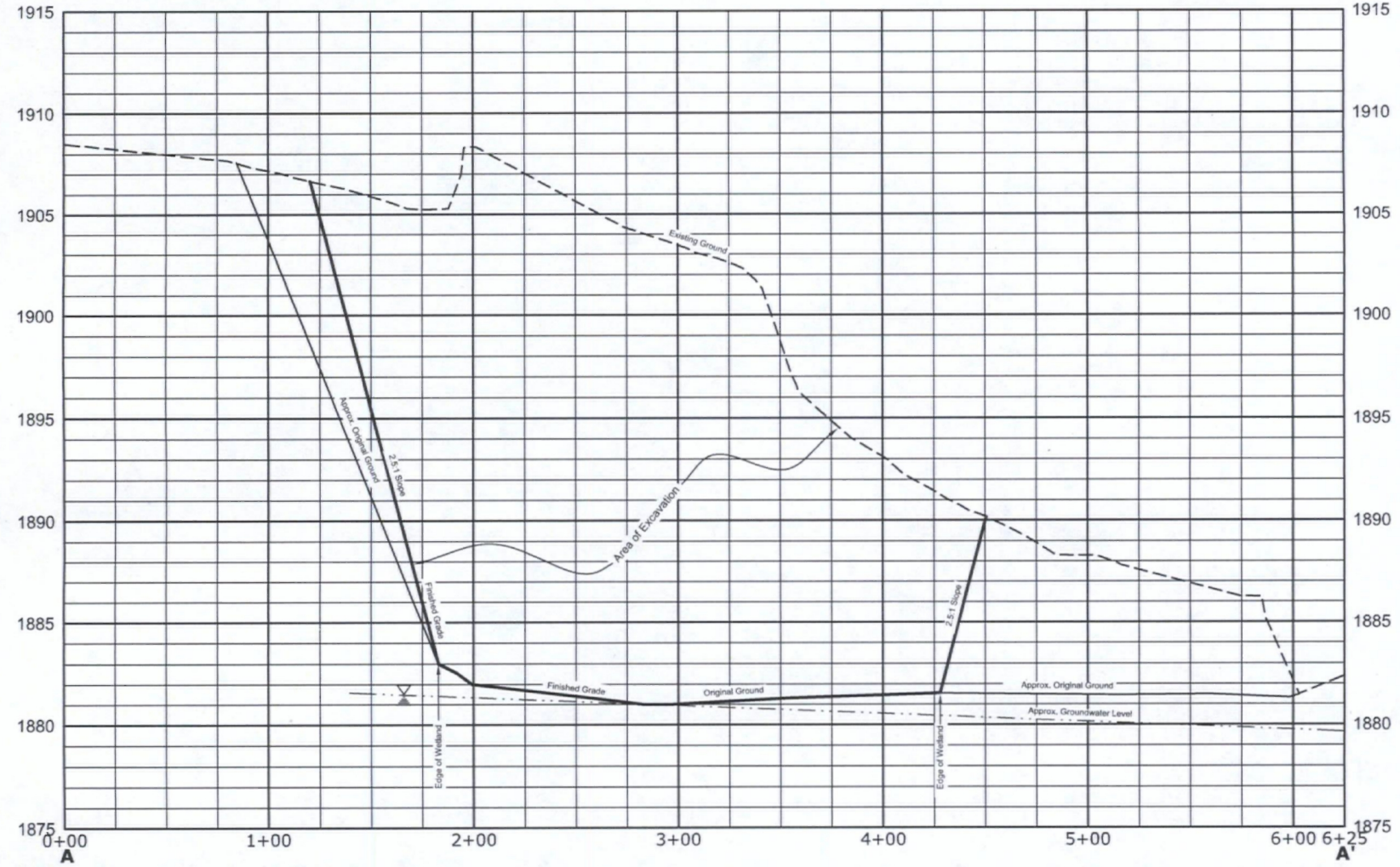
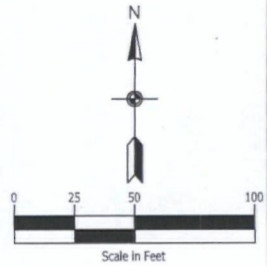
CROSS-SECTION A-A'





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WETLAND RESTORATION CROSS-SECTION A-A'
Project No. 4789

5 of 5

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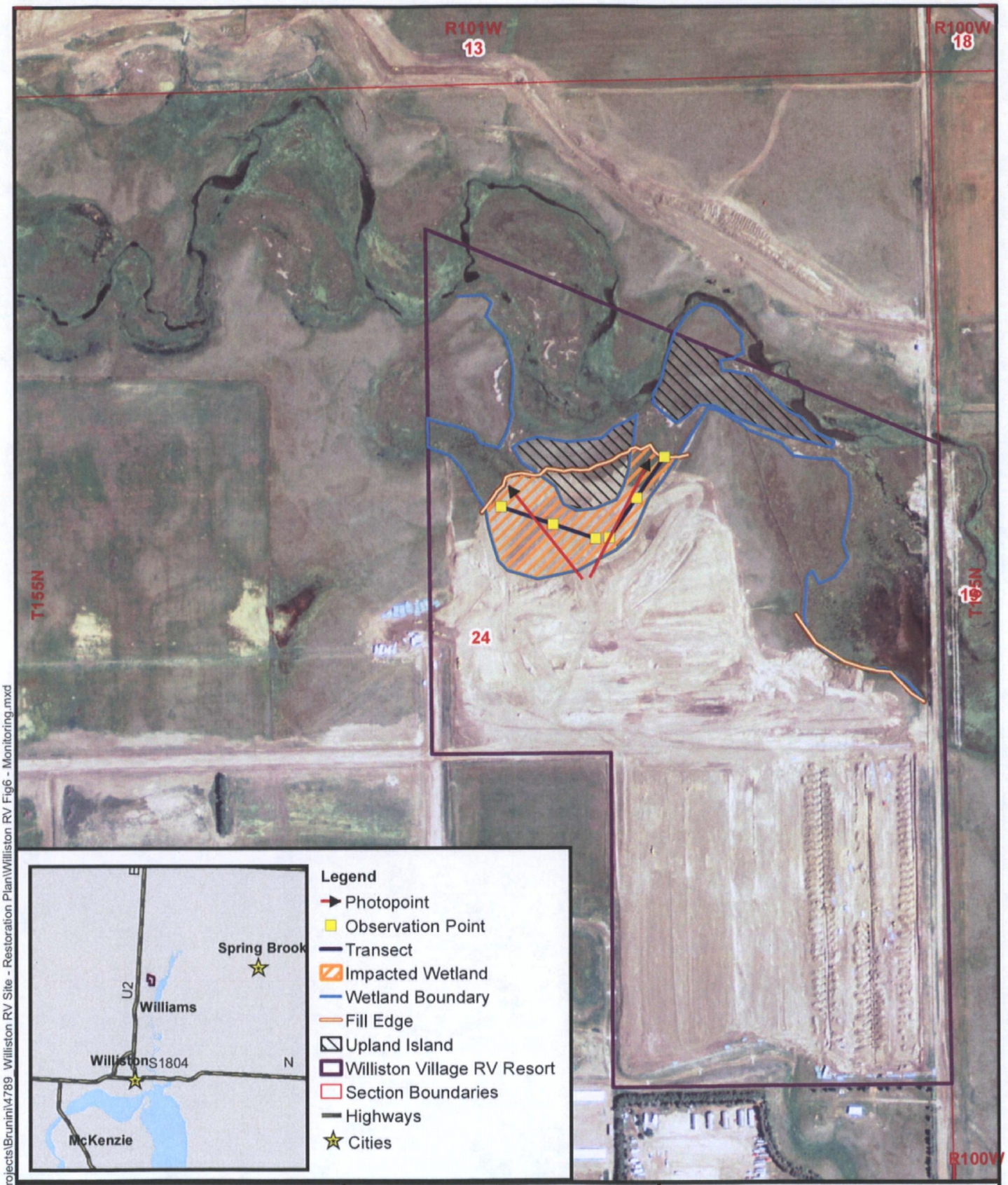

1:6,000
1 inch = 500 feet
0 125 250 500 Feet
Basemap: NAIP Orthophoto 2012
Williams County, North Dakota

N

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www.carlsonmccain.com

Figure 6
Wetland Restoration & Monitoring
Section 24, T155N, R101W
Williston Village RV Resort

September 2013 E:\Projects\Brunin\4789 Williston RV Site - Restoration Plan\Williston RV Fig6 - Monitoring.mxd

Appendix B

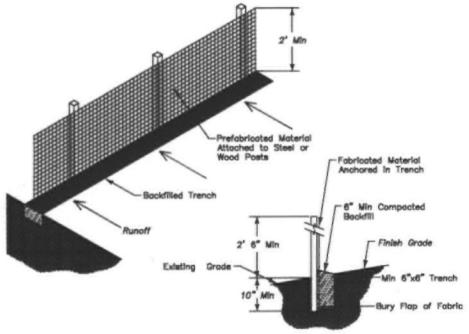
Storm Water Pollution Prevention Plan

NOTES

1. ALL DISTURBED AREA TO BE HYDROSEEDED UPON COMPLETION OF FINAL GRADING OF THE SITE AREA.
2. ALL TOPSOIL OR NATIVE MATERIAL PILES MUST BE LOCATED 200 FEET FROM ANY SURFACE WATER.
3. ALL RIPRAP WILL BE PLACED WITHIN 24 HOURS OF PLACEMENT OF THE PIPES.
4. SEDIMENT BASINS SHALL BE IN PLACE PRIOR TO PLACEMENT OF THE STORM SEWER SYSTEM.
5. ROUGH GRADING OF THE SITE WILL DIVERT ALL STORM WATER TO THE SEDIMENT BASINS SHOWN.

QUANTITIES:

SILT FENCE - 2,250 LF



DETAIL

Notes:

1. Silt fence shall be installed before any earth removal or excavation takes place.
2. Set posts maximum 8 feet on center and excavate 6"x6" trench upslope along the line of posts.
3. Attach filter fabric to posts and extend it into trench.
4. Backfill and compact excavated soil.

SILT FENCE INSTALLATION

(NO SCALE)

Should it silt fence surround restoration area? OK

DESIGN MU PROJ. NO. 6196 DRAWN KD DATE 07/10/13 CHECKED MU SURVEYED DJBA	D&A, P.C.	WILLISTON, NORTH DAKOTA	WILLISTON VILLAGE MOBILE HOME PARK STORM WATER PROTECTIN PLAN (SWPP)	SHEET 1 OF 1